

CLAIMS

1. A process for monitoring the stability of compositions and reaction mixtures which contain vinyl compounds, more especially (meth)acrylic acid and/or (meth)acrylates, characterized in that the content of dissolved oxygen in the composition or in the reaction mixture is determined and compared with predetermined reference values.
2. A process as claimed in claim 1, characterized in that the time required for complete consumption of the dissolved oxygen is determined from the measured content of dissolved oxygen and the rate at which oxygen is consumed under the particular conditions, more especially the particular temperature.
3. A process as claimed in any of the preceding claims, characterized in that the dissolved oxygen content is continuously determined and comparison of the content determined with reference values is also carried out continuously.
4. A process as claimed in any of the preceding claims, characterized in that it is used in ongoing reactions carried out in particular under reduced pressure.
5. A process as claimed in any of the preceding claims, characterized in that the dissolved oxygen content is measured with an oxygen sensor.
6. A process as claimed in any of the preceding claims, characterized in that the dissolved oxygen content is amperometrically determined.
7. A process as claimed in any of the preceding claims, characterized in that the dissolved oxygen content is determined by titration.
8. A process as claimed in any of the preceding claims, characterized in that the dissolved oxygen content is determined by spectroscopic methods, more particularly in the IR and NIR spectral region.
9. A process as claimed in any of the preceding claims, characterized in that the dissolved oxygen content is determined in the composition to be investigated or in the reaction vessel.

10. A process as claimed in any of the preceding claims, characterized in that part of the composition or the reaction mixture is removed, more especially continuously, from the reaction vessel, passed through a measuring cell where the dissolved oxygen content is determined and
5 preferably returned to the reaction vessel.
11. A process as claimed in any of the preceding claims, characterized in that the dissolved oxygen content is determined at several different places within the composition or the reaction mixture.
12. A process as claimed in any of the preceding claims, characterized
10 in that the dissolved oxygen content is determined in the upper region of the liquid phase of the composition or the reaction mixture.
13. A process as claimed in any of the preceding claims, characterized in that the dissolved oxygen content is determined in the lower region of the liquid phase of the composition or the reaction mixture.
- 15 14. A process as claimed in any of the preceding claims, characterized in that the oxygen content is additionally determined above the liquid phase, more particularly by means of a sensor.
- 20 15. A process as claimed in any of the preceding claims, characterized in that monitoring is carried out during the production of (meth)acrylic acid esters of mono- or polyhydric alcohols by esterification of the reactants, more particularly under reduced pressure.